

Serial No.: 10/099,785
Amendment dated August 29, 2005
Response to Office Action mailed March 28, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for communicating between a telemetry unit and an implantable medical device in accordance with a telemetry protocol comprising the steps of:

(a) building a downlink definition;

(b)(e) using the downlink definition to configure ~~configuring~~ a transmit driver to generate a transmit signal in accordance with the telemetry protocol;

(c)(b) transmitting via telemetry the transmit signal from the transmit driver to the implantable medical device;

(d)(e) configuring a receive driver to receive a receive signal in accordance with the telemetry protocol; and

(e)(d) receiving via telemetry the receive signal from the implantable medical device.

2. (Currently Amended) The method for communicating of claim 1, when ~~in~~ (e) comprises: ~~further comprising the step of:~~

(i) measuring a plurality of times between a plurality of rising edges and a plurality of falling edges of the receive signal.

3. (Currently Amended) The method for communicating of claim 2, when ~~in~~ (e) further comprises: ~~further comprising the step of:~~

(ii) providing the plurality of times between the plurality of rising edges and the plurality of falling edges of the receive signal to a protocol driver in the telemetry unit.

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4. **(Currently Amended)** The method for communicating of claim 1, wherein (b) ~~comprises: the step of configuring the transmit driver includes the steps of~~
- (i) setting at least one state in a transmit sequence; and
 - (ii) configuring at least one transmit parameter for each state of the at least one state.
5. **(Currently Amended)** The method for communicating of claim 4, wherein the ~~step of configuring the at least one transmit parameter includes the step of configuring;~~ the transmit parameter is selected from the group consisting of a transmit frequency, a transmit amplitude, a burst shape, a data modulation scheme, and a data bit sequence.
6. **(Currently Amended)** The method for communicating of claim 1, wherein the transmit signal comprises at least one state and (c) ~~comprises: the step of transmitting includes the step of~~
- (i) transmitting the at least one each state of the transmit signal.
7. **(Currently Amended)** The method for communicating of claim 1, wherein (d) ~~comprises: the step of configuring the receive driver includes the step of~~
- (i) configuring at least one receive parameter.
8. **(Currently Amended)** The method for communicating of claim 7, wherein the ~~step of configuring the at least one receiver parameter includes the step of configuring the~~ receive parameter is selected from the group consisting of defined pulse event attributes, defined resolution, defined pulse qualification filters, uplink sequence timeouts, and uplink termination conditions.
9. **(Currently Amended)** The method for communicating of claim 1, further comprising ~~the step of:~~
- ~~(f)~~(e) halting the step of receiving if a memory is full.
10. **(Currently Amended)** The method for communicating of claim 1, further comprising ~~the step of:~~
- ~~(f)~~(e) halting the step of receiving if a timeout has occurred.

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11. **(Currently Amended)** The method for communicating of claim 1, further comprising ~~the step of~~:

~~(f)~~(e) halting the step of receiving if a termination condition is met.

12. **(Currently Amended)** A method for communicating between a telemetry unit and an implantable medical device in accordance with a telemetry protocol, ~~the method comprising the step of~~:

~~(a)~~ building a downlink definition;

~~(b)~~(a) using the downlink definition to configure configuring a transmit driver to generate a transmit signal in accordance with the telemetry protocol; and

~~(c)~~(b) transmitting via telemetry the transmit signal from the transmit driver to the implantable medical device.

13. **(Currently Amended)** The method for communicating of claim 12, wherein ~~(b) comprises; the step of configuring the transmit driver includes the steps of~~

- (i) setting at least one state in a transmit sequence; and
- (ii) configuring at least one transmit parameter for each state.

14. **(Currently Amended)** The method for communicating of claim 13, wherein ~~the step of configuring the at least one transmit parameter includes the step of configuring~~ the transmit parameter is selected from the group consisting of a transmit frequency, a transmit amplitude, a burst shape, a data modulation scheme, and a data bit sequence.

15. **(Original)** The method for communicating of claim 12, wherein the transmit signal comprises at least one state and ~~(c) the step of transmitting includes the step of comprising;~~

- (i) transmitting each state of the transmit signal.

16. **(Cancelled)**

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17. **(Currently Amended)** A method for communicating between a telemetry unit and an implantable medical device in accordance with a telemetry protocol, the method comprising: ~~The method for communicating of claim 16 further comprising the step of~~ (write as independent claim)

- (a) using preset parameters stored within the telemetry unit to configure a receiver driver to receive a receive signal in accordance with the telemetry protocol; and
- (b) receiving via telemetry the receive signal from the implantable medical device, wherein the receiving comprises ~~(e)~~ measuring a plurality of times between a plurality of rising edges and a plurality of falling edges of the receive signal.

18. **(Currently Amended)** The method for communicating of claim 17, wherein (b) further comprises: ~~comprising the step of~~

- (i) ~~(f)~~ providing the plurality of times between the plurality of rising edges and the plurality of falling edges of the receive signal to a protocol driver in the telemetry unit.

Claims 19-23. **(Cancelled)**

24. **(Currently Amended)** A configurable telemetry unit for communicating with an implantable medical device, the telemetry unit comprising ~~in combination~~:

- (a) a microcontroller coupled to a memory;
- (b) ~~(a)~~ a protocol driver stored in the memory, the protocol driver capable of communicating with the implantable medical device in accordance with a telemetry protocol recognized by the implantable medical device;
- (c) ~~(b)~~ a configurable transmit driver, the transmit driver configured to ~~receive-receiving~~ a configuration signal from the protocol driver and to ~~generate-generating~~ a transmit signal having parameters specified by the configuration signal received from the protocol driver; and
- (d) ~~(e)~~ a configurable receive driver, the receive driver configured to ~~receive-receiving~~ a signal from the implantable medical device and to ~~generate-generating~~ a receive signal having parameters specified by the protocol driver.

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25. **(Currently Amended)** The configurable telemetry unit of claim 24, further comprising:
(e)(4) an interface to link the protocol driver with a host.
26. **(Original)** The configurable telemetry unit of claim 25, wherein the host is a programming device.
27. **(Original)** The configurable telemetry unit of claim 25, wherein the host is a general-purpose computing device.
28. **(Currently Amended)** The configurable telemetry unit of claim 24, further comprising:
(e)(4) a protocol driver interface for providing an interface between the protocol driver and the configurable transmit and receive drivers.
29. **(Original)** The configurable telemetry unit of claim 24, wherein the configurable transmit driver comprises an h-bridge and at least one timer.
30. **(Original)** The configurable telemetry unit of claim 24, wherein the configurable receive driver has means for measuring times between rising edges and falling edges of the signal received from the implantable medical device.
31. **(Original)** A configurable telemetry unit for communicating with an implantable medical device comprising in combination:
- (a) a protocol driver capable of communicating with the implantable medical device in accordance with a telemetry protocol recognized by the implantable medical device;
 - (b) an antenna for transferring signals to and from the implantable medical device via telemetry;
 - (c) means for receiving a signal from the protocol driver, generating a transmit signal having parameters specified by the protocol driver, and providing the transmit signal to the antenna; and
 - (d) means for measuring times between rising edges and falling edges of a receive signal received from the antenna and providing the measured times to the protocol driver.

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32. **(Currently Amended)** The configurable telemetry unit of claim 31, further comprising:

~~(e)~~(d) an interface to link the protocol driver with a host.

33. **(Original)** The configurable telemetry unit of claim 32, wherein the host is a programming device.

34. **(Original)** The configurable telemetry unit of claim 32, wherein the host is a general-purpose computing device.

35. **(Currently Amended)** The configurable telemetry unit of claim 31, further comprising:

~~(e)~~(d) a protocol driver interface providing an interface between the protocol driver and the means for receiving and the means for measuring.

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